

***** CONFIDENTIAL *****
***** PREDECISIONAL DOCUMENT *****

SUMMARY SCORESHEET
FOR COMPUTING PROJECTED HRS SCORE

SITE NAME: KAPALAMA MILITARY RESERVATION

CITY, COUNTY: HONOLULU

EPA ID #: NOT ASSIGNED EVALUATOR: SANJEEV SHARMA

PROGRAM ACCOUNT #: _____ DATE: 1/7/92

Lat/Long: _____ T/R/S: _____

THIS SCORESHEET IS FOR A: PA SSI LSI _____

SIRE _____ PA Redo _____ Other (Specify) _____

RCRA STATUS (check all that apply):

Generator Small Quantity Generator Transporter TSDf

Not Listed in RCRA Database as of (date of printout) ___/___/___

STATE SUPERFUND STATUS:

BEP (date) ___/___/___ WQARF (date) ___/___/___

No State Superfund Status (date) ___/___/___

	S pathway	S ² pathway
Groundwater Migration Pathway Score (S _{gw})	100	10000
Surface Water Migration Pathway Score (S _{sw})	13.6826	187.2135
Soil Exposure Pathway Score (S _s)	0.6108	0.3730
Air Migration Pathway Score (S _a)	10.8272	117.2282
$S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$		10304.8149
$(S_{gw}^2 - S_{sw}^2 + S_s^2 - S_a^2)/4$		2576.2037
$\sqrt{(S_{gw}^2 + S_{sw}^2 + S_s^2 - S_a^2)/4}$		50.7563

*Pathways not assigned a score (explain):

GROUNDWATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
1. Observed Release	550	<u>550</u>	<u>1</u>	<u>H</u>
2. Potential to Release				
2a. Containment	10	<u>10</u>	<u>2</u>	<u>H</u>
2b. Net Precipitation	10	<u>3</u>	<u>3</u>	<u>H</u>
2c. Depth to Aquifer	5	<u>5</u>	<u>4</u>	<u>H</u>
2d. Travel Time	35	<u>35</u>	<u>5</u>	<u>E</u>
2e. Potential to Release [Lines 2a x (2b+2c+2d)]	500	<u>430</u>		
3. Likelihood of Release (Higher of lines 1 or 2e)	550	<u>550</u>		
<u>Waste Characteristics</u>				
4. Toxicity/Mobility	a	<u>10000</u>	<u>6</u>	<u>H</u>
5. Hazardous Waste Quantity	a	<u>10</u>	<u>7</u>	<u>E</u>
6. Waste Characteristics (lines 4 x 5, then use Table 2-7)	100	<u>18</u>	<u>8</u>	
<u>Targets</u>				
7. Nearest Well	50	<u>9</u>	<u>9</u>	<u>H</u>
8. Population ^d				
8a. Level I Concentrations	b			
8b. Level II Concentrations	b			
8c. Potential Contamination	b	<u>1281.3</u>	<u>10</u>	<u>H</u>
8d. Population (lines 8a+8b+8c)	b	<u>1281.3</u>		
9. Resources	5	<u>5</u>	<u>11</u>	<u>H</u>
10. Wellhead Protection Area	20	<u>0</u>	<u>12</u>	<u>E</u>
11. Targets (lines 7+8d+9+10)	b	<u>1295.3</u>		
<u>Likelihood of Release</u>				
12. Aquifer Score [(Lines 3 x 6 x 11)/82,500] ^c	100	<u>155.436</u>		
<u>Groundwater Migration Pathway Score</u>				
13. Pathway Score (Sgw), (highest value from line 12 for all aquifers evaluated)	100	100 ^c		

- a Maximum value applies to waste characteristics category.
- b Maximum value not applicable.
- c Do not round to the nearest integer.
- d Use additional tables.

/hrs

Aquifer Evaluated

HONOLULU
(KALIHI SECTION)

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GROUNDWATER PATHWAY CALCULATIONS

8. Population

Actual Contamination

Well Identifier	Contaminant Detected	Concentration (Note Units)	Benchmark	(A) Apportioned Population Well Serves	(B) Level* Multip.	(A x B)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
				Sum (AXB) Level I		_____
				Sum (AXB) Level II		_____

* Multipliers

- Level I = 10
- Level II = 1

Potential Contamination

Distance (miles)	Total Number of Wells Within Distance Ring	Total Population Served by Wells Within Distance Ring	Distance-Weighted Population Values "Other Than Karst" (Table 3-12) (A)
0 to 1/4	_____	_____	_____
>1/4 to 1/2	_____	_____	_____
>1/2 to 1	_____	_____	_____
>1 to 2	_____	76,892	9,385
>2 to 3	_____	20,368	2,122
>3 to 4	_____	19,885	1,306
Sum (A)			12,813

Potential contamination = $\frac{\text{Sum (A)}}{10} = \underline{1281.3}$

* For drinking water wells that draw from a karst aquifer, see the Distance-Weighted Population Values for "Karst" in Table 3-12.

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Aquifer Evaluated

HONOLULU
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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors

DRINKING WATER THREAT

<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
1. Observed Release	550	<u>550</u>	<u>13</u>	<u>H</u>
2. Potential to Release by Overland Flow				
2a. Containment	10	<u>10</u>	<u>14</u>	<u>H</u>
2b. Runoff	25	<u>1</u>	<u>15</u>	<u>H</u>
2c. Distance to Surface Water	25	<u>16</u>	<u>16</u>	<u>H</u>
2d. Potential to Release by Overland Flow [lines 2a x (2b+2c)]	500	<u>170</u>		
3. Potential to Release by Flood				
3a. Containment (Flood)	10	<u>10</u>	<u>17</u>	<u>H</u>
3b. Flood Frequency	50	<u>0</u>	<u>18</u>	<u>H</u>
3c. Potential to Release by Flood (lines 3a x 3b)	500	<u>0</u>		
4. Potential to Release (Lines 2d+3c, subject to a maximum of 500)	500	<u>170</u>		
5. Likelihood of Release (Higher of lines 1 or 4)	550	<u>550</u>		
<u>Waste Characteristics</u>				
6. Toxicity/Persistence	a	<u>10000</u>	<u>19</u>	<u>H</u>
7. Hazardous Waste Quantity	a	<u>10</u>	<u>7</u>	<u>E</u>
8. Waste Characteristics (lines 6 x 7, then assign a value from Table 2-7)	100	<u>10</u>		
<u>Targets</u>				
9. Nearest Intake				
10. Population ^d	50	<u>0</u>	<u>20</u>	<u>H</u>
10a. Level I Concentrations	b	<u>0</u>	<u>20</u>	
10b. Level II Concentrations	b	<u>0</u>	<u>20</u>	
10c. Potential Contamination	b	<u>0</u>	<u>20</u>	
10d. Population (lines 10a + 10b+10c)	b			
11. Resources	5	<u>5</u>	<u>21</u>	<u>H</u>
12. Targets (lines 9+10d+11)	b	<u>5</u>		
<u>Drinking Water Threat Score</u>				
13. Drinking Water Threat [(Lines 5 x 8 x 12)/82,500, subject to a maximum of 100]	100	<u>0.3333</u>		

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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET (CONTINUED)

Factor Categories and Factors

HUMAN FOOD CHAIN THREAT

	<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
14.	Likelihood of Release (Same value as line 5)	550	<u>550</u>	<u>13</u>	<u>H</u>
	<u>Waste Characteristics</u>				
15.	Toxicity/Persistence/ Bioaccumulation	a	<u>5×10^7</u>	<u>22</u>	<u>H</u>
16.	Hazardous Waste Quantity	a	<u>10</u>	<u>7</u>	<u>E</u>
17.	Waste Characteristics (Toxicity/Persistence x Hazardous Waste Quantity x Bioaccumulation, then assign a value from Table 2-7)	1,000	<u>100</u>	<u>23</u>	
	<u>Targets</u>				
18.	Food Chain, Individual	50	<u>20</u>	<u>24</u>	<u>H</u>
19.	Population ^d				
19a.	Level I Concentrations	b	<u>0</u>		
19b.	Level II Concentrations	b	<u>0</u>		
19c.	Potential Human Food Chain Contamination	b	<u>0.000158</u>	<u>25</u>	<u>E</u>
19d.	Population (lines 19a+19b+19c)	b	<u>0.000158</u>		
20.	Targets (lines 18+19d)	b	<u>20.000158</u>		
	<u>Human Food Chain Threat Score</u>				
21.	Human Food Chain Threat [(Lines 14 x 17 x 20)/82,500 subject to a maximum of 100]	100	<u>13.3334</u>		

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET (CONTINUED)

Factor Categories and Factors

ENVIRONMENTAL THREAT

	<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
22.	Likelihood of Release (Same value as line 5)	550	<u>550</u>	<u>13</u>	<u>H</u>
	<u>Waste Characteristics</u>				
23.	Ecosystem Toxicity/Persistence/ Bioaccumulation	a	<u>5x10⁶</u>	<u>26</u>	<u>H</u>
24.	Hazardous Waste Quantity	a	<u>10</u>	<u>7</u>	<u>E</u>
25.	Waste Characteristics (Ecosystem Tox./Persistence x Hazardous Waste Quantity x Bioaccumulation, then assign a value from Table 2-7)	1,000	<u>56</u>	<u>27</u>	
	<u>Targets</u>				
26.	Sensitive Environments ^d				
26a.	Level I Concentrations	b			
26b.	Level II Concentrations	b			
26c.	Potential Contamination	b	<u>0.0425</u>	<u>28</u>	<u>H</u>
26d.	Sensitive Environments (lines 26a+26b+26c)	b	<u>0.0425</u>		
27.	Targets (Value from line 26d)	b	<u>0.0425</u>		
	<u>Environmental Threat Score</u>				
28.	Environmental Threat Score [(lines 22 x 25 x 27)/82,500 subject to a maximum of 60]	60	<u>0.015866</u>		

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE FOR A WATERSHED

29.	Watershed Score [(Lines 13+21+28), subject to a maximum of 100]	100	13.6826 ^c		
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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE

30.	Component Score (Sof) (Highest score from Line 29 for all watersheds evaluated, subject to a maximum of 100)	100	13.6826 ^c		
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- a Maximum value applies to waste characteristics category.
- b Maximum value not applicable.
- c Do not round to the nearest integer.
- d Use additional tables

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT CALCULATIONS

12. Drinking Water Targets

Actual Contamination

Intake	Contaminant Detected	Concentration (Note Units)	Benchmark	(A) Apportioned Population Intake Serves	(B) Level* Multip.	(A x B)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
* Level Multipliers						
- Level I = 10				Sum (A x B) Level I		_____
- Level II = 1				Sum (A x B) Level II		_____

Potential Contamination

Type of Surface Water Body (Dilution)	(A) Dilution-Weighted Population Value (Table 4-14)
< 10 cfs	_____
10 to 100 cfs	_____
> 100 to 1,000 cfs	_____
> 1,000 to 10,000 cfs	_____
> 10,000 to 100,000 cfs	_____
Shallow ocean zone (depth < 20 ft)	_____
Moderate ocean zone (depth 20 to 200 ft)	_____
Deep ocean zone (depth > 200 ft)	_____
3-mile mixing zone in quiet flowing river \geq 10 cfs	_____
Sum (A)	_____

Potential Contamination = $\frac{\text{Sum (A)}}{10}$ = _____

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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT CALCULATIONS (CONTINUED)

20. Food Chain Targets

Actual Contamination

Fishery	Contaminant	Concentration	Benchmark	(A) Assigned Population Value (Table 4-18)	(B) Level* Multiplier	(A x B)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
				Sum (A x B) Level I		_____
				Sum (A x B) Level II		_____

* Level Multipliers
 - Level I = 10
 - Level II = 1

Potential Contamination

Fishery	Production (lb/yr)	(P) Assigned Population Value (Table 4-18)	Average Stream Flow at Fishery (cfs)	(DW) Dilution Weighting Factor (Table 4-13)	(P x DW)
COMMERCIAL	515,215	310	_____	0.000005	0.00155
RECREATIONAL	1,000	0.3	_____	0.0001	0.00003
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
				Sum (P x DW)	0.00158

Fisheries Subject to Potential Contamination = $\frac{\text{Sum (P x DW)}}{10} = \underline{0.00158}$

GROUNDWATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors

DRINKING WATER THREAT

	<u>Likelihood of Release to Aquifer</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
1.	Observed Release	550	<u>550</u>	<u>29</u>	<u>H</u>
2.	Potential to Release				
2a.	Containment	10			
2b.	Net Precipitation	10			
2c.	Depth to Aquifer	5			
2d.	Travel Time	35			
2e.	Potential to Release [lines 2a x (2b+2c+2d)]	500			
3.	Likelihood of Release (higher of lines 1 or 2e)	550			
<u>Waste Characteristics</u>					
4.	Toxicity/Mobility/Persistence	a			
5.	Hazardous Waste Quantity	a			
6.	Waste Characteristics (lines 4 x 5, then assign a value from Table 2-7)	100			
<u>Targets</u>					
7.	Nearest Intake	50			
8.	Population ^d				
8a.	Level I Concentrations	b			
8b.	Level II Concentrations	b			
8c.	Potential Contamination	b			
8d.	Population (lines 8a+8b+8c)	b			
9.	Resources	5			
10.	Targets (Lines 7+8d+9)	b			
<u>Drinking Water Threat Score</u>					
11.	Drinking Water Threat [(Lines 3 x 6 x 10)/82,500 subject to a maximum of 100]	100			

GROUNDWATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET (CONTINUED)

Factor Categories and Factors

HUMAN FOOD CHAIN THREAT

	<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
12.	Likelihood of Release (Same Value as Line 3)	550	_____	_____	_____
	<u>Waste Characteristics</u>				
13.	Toxicity/Mobility/Persistence/ Bioaccumulation	a	_____	_____	_____
14.	Hazardous Waste Quantity	a	_____	_____	_____
15.	Waste Characteristics (Toxicity/Mobility/Persistence x Hazardous Waste Quantity x Bioaccumulation, then assign a value from Table 2-7)	1,000	_____	_____	_____
	<u>Targets</u>				
16.	Food Chain Individual	50	_____	_____	_____
17.	Population ^d		_____	_____	_____
17a.	Level I Concentrations	b	_____	_____	_____
17b.	Level II Concentrations	b	_____	_____	_____
17c.	Potential Human Food Chain Contamination	b	_____	_____	_____
17d.	Population (Lines 17a+17b+17c)	b	_____	_____	_____
18.	Targets (Lines 16+17d)	b	_____	_____	_____
	<u>Human Food Chain Threat Score</u>				
19.	Human Food Chain Threat [(Lines 12 x 15 x 18)/82,500 subject to a maximum of 100]	100	_____	_____	_____

GROUNDWATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET (CONTINUED)

Factor Categories and Factors

ENVIRONMENTAL THREAT

	<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
20.	Likelihood of Release (Same Value as Line 3)	550	_____	_____	_____
	<u>Waste Characteristics</u>				
21.	Ecosystem Toxicity/Mobility/ Persistence/Bioaccumulation	a	_____	_____	_____
22.	Hazardous Waste Quantity	a	_____	_____	_____
23.	Waste Characteristics (Eco. Tox./Mob./Pers. x Hazardous Waste Quantity x Bioaccumulation, then assign a value from Table 2-7)	1,000	_____	_____	_____
	<u>Targets</u>				
24.	Sensitive Environments ^d				
24a.	Level I Concentrations	b	_____	_____	_____
24b.	Level II Concentrations	b	_____	_____	_____
24c.	Potential Contamination	b	_____	_____	_____
24d.	Sensitive Environments (lines 24a+24b+24c)	b	_____	_____	_____
25.	Targets (Value from line 24d)	b	_____	_____	_____
	<u>Environmental Threat Score</u>				
26.	Environmental Threat Score [(lines 20 x 23 x 25)/82,500 subject to a maximum of 60]	60	_____	_____	_____

GROUNDWATER TO SURFACE WATER MIGRATION COMPONENT SCORE FOR A WATERSHED

27. Watershed Score
 [(Lines 11+19+26),
 subject to a maximum of 100] 100 ^c

GROUNDWATER TO SURFACE WATER MIGRATION COMPONENT SCORE

28. Component Score (Sof)
 (Highest score from Line 27
 for all watersheds evaluated,
 subject to a maximum of 100) 100 ^c

- a Maximum value applies to waste characteristics category.
- b Maximum value not applicable.
- c Do not round to the nearest integer.
- d Use additional tables.

GROUNDWATER TO SURFACE WATER MIGRATION COMPONENT CALCULATIONS

10. Drinking Water Targets

Actual Contamination

Intake	Contaminant Detected	Concentration (Note Units)	Benchmark	(A) Apportioned Population Intake Serves	(B) Level* Multip.	(A x B)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
				Sum (A x B) Level I	_____	_____
				Sum (A x B) Level II	_____	_____

* Level Multipliers
 - Level I = 10
 - Level II = 1

Potential Contamination

Type of Surface Water Body (Dilution)	(A) Dilution-weighted Adjustment Values (Table 4-27)	(B) Dilution-weighted Population Values (Table 4-14)	(A x B)
< 10 cfs	_____	_____	_____
10 to 100 cfs	_____	_____	_____
> 100 to 1,000 cfs	_____	_____	_____
> 1,000 to 10,000 cfs	_____	_____	_____
> 10,000 to 100,000 cfs	_____	_____	_____
Shallow ocean zone (depth < 20 ft)	_____	_____	_____
Moderate ocean zone (depth 20 to 200 ft)	_____	_____	_____
Deep ocean zone (depth > 200 ft)	_____	_____	_____
3-mile mixing zone in quiet flowing river ≥ 10 cfs	_____	_____	_____

Potential Contamination = $\frac{\text{Sum (A x B)}}{10}$ = _____ Sum (A X B) _____

/hrs

GROUNDWATER TO SURFACE WATER MIGRATION COMPONENT CALCULATIONS (CONTINUED)

20. Food Chain Targets

Actual Contamination

Fishery	Contaminant	Concentration	Benchmark	(A) Assigned Population Value (Table 4-18)	(B) Level* Multiplier	(A x B)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
* <u>Level Multipliers</u>				Sum (A x B) Level I		_____
- Level I = 10				Sum (A x B) Level II		_____
- Level II = 1						_____

Potential Contamination

Fishery	Production (lb/yr)	(P) Assigned Population Value (Table 4-18)	Average Stream Flow at Fishery (cfs)	(DW) Dilution Weighting Factor (Table 4-13)	(DA) Dilution Weight Adjustment Factor (Table 4-27)	(PxDWxDA)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
					Sum (PxDWxDA)	_____

Fisheries Subject to Potential Contamination = $\frac{\text{Sum (PxDWxDA)}}{10} =$ _____

SOIL EXPOSURE PATHWAY SCORESHEET

Factor Categories and Factors

RESIDENT POPULATION THREAT

<u>Likelihood of Exposure</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
1. Likelihood of Exposure	550	<u>550</u>	<u>30</u>	<u>H</u>
<u>Waste Characteristics</u>				
2. Toxicity	a	<u>10000</u>	<u>31</u>	<u>H</u>
3. Hazardous Waste Quantity	a	<u>10</u>	<u>7</u>	<u></u>
4. Waste Characteristics	100	<u>18</u>	<u>32</u>	<u></u>
<u>Targets</u>				
5. Resident Individual	50	<u>0</u>	<u></u>	<u></u>
6. Resident Population		<u>0</u>	<u></u>	<u></u>
6a. Level I Concentrations	b	<u>0</u>	<u></u>	<u></u>
6b. Level II Concentrations	b	<u>0</u>	<u></u>	<u></u>
6c. Resident Population (lines 6a+6b)	b	<u>0</u>	<u></u>	<u></u>
7. Workers	15	<u>5</u>	<u>33</u>	<u>H</u>
8. Resources	5	<u>0</u>	<u></u>	<u></u>
9. Terrestrial Sensitive Environments	c	<u>0</u>	<u></u>	<u></u>
10. Targets (lines 5+6c+7+8+9)	b	<u>5</u>	<u></u>	<u></u>
<u>Resident Population Threat Score</u>				
11. Resident Population Score (lines 1 x 4 x 10)	b	<u>49,500</u>	<u></u>	<u></u>

NEARBY POPULATION THREAT

<u>Likelihood of Exposure</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
12. Attractiveness/Accessibility	100	<u>10</u>	<u>34</u>	<u>H</u>
13. Area of Contamination	100	<u>20</u>	<u>35</u>	<u>E</u>
14. Likelihood of Exposure	500	<u>5</u>	<u>36</u>	<u></u>
<u>Waste Characteristics</u>				
15. Toxicity	a	<u>10000</u>	<u>31</u>	<u>H</u>
16. Hazardous Waste Quantity	a	<u>10</u>	<u>7</u>	<u>E</u>
17. Waste Characteristics	100	<u>18</u>	<u>32</u>	<u></u>
<u>Targets</u>				
18. Nearby Individual	1	<u>0</u>	<u>37</u>	<u>H</u>
19. Population Within 1-Mile ^e	b	<u>9.9</u>	<u>38</u>	<u>H</u>
20. Targets (lines 18+19)	b	<u>9.9</u>	<u></u>	<u></u>

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SOIL EXPOSURE CALCULATIONS

20. Nearby Population Targets

Distance (miles)	Total Population Within Distance Ring	(P) Distance- Weighted Population Values (Table 5-10)
0 to 1/4	<u>83</u>	<u>1</u>
>1/4 to 1/2	<u>4,615</u>	<u>65</u>
>1/2 to 1	<u>8,203</u>	<u>33</u>
	Sum (P)	<u>99</u>

Nearby Population Threat factor value $\frac{\text{Sum (P)}}{10} = \underline{9.9}$

SOIL EXPOSURE PATHWAY SCORESHEET (CONTINUED)

Factor Categories and Factors

<u>Nearby Population Threat Score</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
21. Nearby Population Threat (lines 14 x 17 x 20)	b	891		
SOIL EXPOSURE PATHWAY SCORE				
22. Soil Exposure Pathway Score (Ss), [lines (11+21)/82,500 subject to a maximum of 100]	100	0.6108 ^d		

- a Maximum value applies to waste characteristics category.
- b Maximum value not applicable.
- c No specific maximum value applies to this factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
- d Do not round to the nearest integer.
- e Use additional tables.

AIR MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

<u>Likelihood of Release</u>	<u>Maximum Value</u>	<u>Projected Score</u>	<u>Rationale</u>	<u>Data Qual.</u>
1. Observed Release	550	<u>0</u>	<u>39</u>	<u>H</u>
2. Potential to Release ^e				
2a. Gas Potential	500	<u>250</u>	<u>40</u>	<u>H</u>
2b. Particulate Potential	500	<u>390</u>	<u>41</u>	<u>H</u>
2c. Potential to Release (higher of lines 2a and 2b)	500	<u>390</u>		
3. Likelihood of Release (higher of Lines 1 or 2c)	550	<u>390</u>		
<u>Waste Characteristics</u>				
4. Toxicity/Mobility	a	<u>10000</u>	<u>42</u>	<u>H</u>
5. Hazardous Waste Quantity	a	<u>10</u>	<u>7</u>	
6. Waste Characteristics (lines 4 x 5, then use Table 2-7)	100	<u>18</u>		
<u>Targets</u>				
7. Nearest Individual	50	<u>20</u>	<u>43</u>	<u>H</u>
8. Population ^e				
8a. Level I Concentrations	b	<u>0</u>		
8b. Level II Concentrations	b	<u>0</u>		
8c. Potential Contamination ^e	b	<u>101.5</u>	<u>44</u>	<u>H</u>
8d. Population (8a+8b+8c)	b	<u>101.5</u>		
9. Resources	5	<u>5</u>	<u>45</u>	<u>H</u>
10. Sensitive Environments ^e				
10a. Actual Contamination	c			
10b. Potential Contamination	c	<u>0.74275</u>	<u>46</u>	<u>H</u>
10c. Sensitive Environments (lines 10a+10b)	c	<u>0.74275</u>		
11. Targets (Lines 7+8d+9+10c)	b	<u>127.24275</u>		
<u>Air Pathway Migration Score</u>				
12. Air Pathway Score (Sa) [(lines 3 x 6 x 11)/82,500]	100	10.8272 ^d		

- a Maximum value applies to waste characteristics category.
 b Maximum value not applicable.
 c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
 d Do not round to nearest integer.
 e Use additional tables.

/hrs.

21-May-1991

AIR PATHWAY CALCULATIONS

2. Potential to Release

Gas Potential to Release

Source Type (Name)	Gas Containment Factor Value (Table 6-3)	Gas Source Type Factor Value (Table 6-4)	Gas Migration Potential Factor Value (Table 6-7)	Sum	Gas Source Value
	(A)	(B)	(C)	(B+C)	A x (B+C)
1. <u>CONTAMINATED</u> <u>SOIL</u>	<u>10</u>	<u>19</u>	<u>6</u>	<u>25</u>	<u>250</u>
2. _____	_____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____	_____
Gas Potential to Release Factor Value (Select the highest Gas Source Value)					<u>250</u>

Particulate Potential to Release

Source Type (Name)	Particulate Containment Factor Value (Table 6-9)	Particulate Source Type Factor Value (Table 6-4)	Particulate Migration Potential Factor Value (Figure 6-2)	Sum	Particulate Source Value
	(A)	(B)	(C)	(B+C)	A x (B+C)
1. <u>CONTAMINATED</u> <u>SOIL</u>	<u>10</u>	<u>22</u>	<u>17</u>	<u>39</u>	<u>390</u>
2. _____	_____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____	_____
Particulate Potential to Release Factor Value (Select the highest Particulate Source Value)					<u>390</u>

AIR PATHWAY CALCULATIONS (CONTINUED)

8. Potential Contamination

Distance (miles)	Total Population Within Distance Ring	(A) Distance-Weighted Population Value (Table 6-17)
On a source (0)		
>0 to 0.25	<u>83</u>	<u>13</u>
>0.25 to 0.5	<u>4,615</u>	<u>282</u>
>0.5 to 1	<u>8,203</u>	<u>261</u>
>1 to 2	<u>33,159</u>	<u>266</u>
>2 to 3	<u>46,297</u>	<u>120</u>
>3 to 4	<u>62,870</u>	<u>73</u>
	Sum of (A) =	<u>1015</u>

Air Potential Contamination Factor Value = $\frac{\text{Sum of (A)}}{10} = \underline{101.5}$

10. Sensitive Environments

Actual Contamination Wetland or Type of Sensitive Environment	(A) Sensitive Environment Rating Value (Table 4-23)	(B) Wetland Rating Value (Table 6-18)	(A + B)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Actual Contamination Factor Value [sum (A + B)] _____

AIR PATHWAY CALCULATIONS (CONTINUED)

Potential Contamination					
Wetland or Type of Sensitive Environment	(A) Sensitive Environment Rating Value (Table 4-23)	(B) Wetland* Rating Value (Table 6-18)	Distance (miles)	(DW) Distance Weights (Table 6-15)	DW x (A + B)
<u>FORT KAM</u>	<u>0</u>	<u>75</u>	<u>3.5</u>	<u>0.0014</u>	<u>0.105</u>
<u>REEF RUNWAY</u>	<u>75</u>	<u>500</u>	<u>3.0</u>	<u>0.0023</u>	<u>1.3225</u>
<u>KEEH LAGOON</u>	<u>125</u>	<u>250</u>	<u>0.57</u>	<u>0.016</u>	<u>6.000</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
Sum DW x (A + B)					<u>7.4275</u>

Potential Contamination
 Sensitive Environments Factor Value = $\frac{\text{Sum DW} \times (A + B)}{10} = \underline{0.74275}$

* Only assign a Wetland Rating Value once for each wetland within a distance category.